Remarks/Arguments

Applicants have received and carefully reviewed the Office Action mailed November 3, 2004, setting a three-month shortened statutory period for response ending February 3, 2005. Claims 1-20 remain pending. Reconsideration and reexamination are respectfully requested.

Information Disclosure Statement

As a preliminary matter, Applicants again note that a PTO Form 1449 was filed on October 31, 2003. However, Applicants have not yet received an initialed copy of the PTO Form 1449. ***Applicants respectfully request that an initialed copy of the FORM-1449 be provided to Applicants with the next Office Action.***

Allowable Subject Matter

Applicants thank the Examiner for indicating that claims 7 and 9 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening clams.

Rejections Under 35 U.S.C. § 103(a)

Claims 1-3, 8, 11, 12, and 14-19 are rejected as unpatentable over McNair et al. (U.S. Patent No. 5,595,342) in view of Bojeryd (U.S. Patent No. 5,946,622). The Examiner asserts that McNair et al. disclose at least one of the frequencies being outside a partial frequency range of the defined frequency range. The Examiner points to FIG. 3 to support this assertion.

Applicants respectfully disagree. McNair et al. appears to suggest using frequency hopping to allow data to be sent on three separate channels. Figure 3 of McNair et al. appears to show the same data "A" being sent at each of three frequencies designated as channel 1, channel 2 and channel 3 - at different times. Applicants have carefully reviewed the McNair et al. disclosure and have not found a teaching or suggestion of transmitting at least one signal outside a partial frequency range, as is recited in the claims. The Examiner states that giving McNair et al. the broadest

reasonable interpretation, the reference is interpreted as teaching channels 1 and channel 2 as being in one group or range and channel 3 in another frequency group or range. McNair et al. disclose:

> The transmission on each of the three channels may take the form shown in FIG. 3. A transmission on channel 1 includes address and temperature data which is repeated thereafter on channels 2 and 3. The transmissions will not be continuous but only periodically carried out, typically at five minute intervals to reduce power consumption.

(See, McNair et al., column 3, lines 21-27). It is unclear how such a teaching can be interpreted as having channels 1 and 2 being in one frequency group and channel 3 in another frequency group. If this rejection is maintained, the Examiner is requested to explain the basis for the interpretation.

With respect to independent claims 11 and 15, the Examiner asserts that McNair et al. disclose sending at least selected data using a first frequency in the subrange and sending at least selected data using a second frequency that is not in the subrange. Column 3, lines 7-24 of McNair et al. is cited for support. Claims 11 and 15 recite the method steps of identifying a subrange in a desired frequency range which is more commonly used than other parts of the frequency range, and sending at least selected data using a first frequency within the subrange and sending at least selected data using a second frequency that is not in the subrange.

Applicants have carefully reviewed column 3, lines 7-24 of McNair et al. and have found no disclosure or suggestion of sending data using a first frequency in the subrange and sending data using a second frequency that is not in the subrange, as is recited in the claims. McNair et al. teaches using frequency hopping to allow data to be sent on three separate channels, wherein the frequencies are generated by a frequency synthesizer. Rather than identifying a subrange, McNair et al. teach using a frequency synthesizer to generate frequencies for frequency hopping. There is no indication whatsoever that the frequency synthesizer of McNair et al. identifies a subrange of frequencies, and thus the first and second frequencies of McNair et al. cannot be deemed to be inside of or outside of an identified subrange.

In any event, the Examiner asserts that McNair et al. teach the elements of the rejected claims except that McNair et al. fails to disclose a portion of the frequency range is more commonly used than other portions of the frequency range by devices. Bojeryd is relied on for teaching a portion of a frequency range more commonly used than another portion of the frequency range by devices. The Examiner asserts that it would have been obvious to one of ordinary skill in the art to modify the system of McNair et al. with the teachings of Bojeryd in order to provide capacity demand as disclosed by Bojeryd. Applicants respectfully disagree.

Bojeryd relates to methods of extending cellular telephone service from a macro-cell outside a building to inside the building while still providing cellular telephone service via separate radio frequencies associated with a pico-cell inside the building. The Examiner points to column 5, lines 25-32 of Bojeryd for support. This section contains claim 1, and relates to a method and apparatus in which a first group of frequencies is allocated to a pico-cell within a building and a second group of frequencies is allocated to a macro-cell outside the building. Nothing in this section of Bojeryd appears to teach or suggest that a portion of a frequency range is more commonly used than other portions of the frequency range by devices, as the Examiner suggests. In addition, it appears that for a given cell phone, transmission is established at only one of the frequencies at any given time. For example, Bojeryd state:

> When a cellular telephone is operated outside the building 100 but within the macro-cell 110, it receives cellular telephone service from the base station 120 via antenna 130. As the cellular telephone moves inside the building 100, and the transmitted signal from antenna 130 begins to fade, the cellular telephone continues to receive transmission from base station 120 via the plurality of antennas 160.

(Bojeryd, column 3, lines 8-14). Thus, it would appear that Bojeryd suggests establishing transmission at a particular frequency (e.g. the one with the strongest signal strength). Thus, Bojeryd does not appear to teach or suggest a system whereby one would transmit in two (or more) frequencies where one of the frequencies is more commonly used than other frequencies, as the Examiner suggests. As acknowledged by the Examiner, McNair et al. also fails to suggest this. As such, the combination of McNair et al. and Bojeryd fails to teach each and every element of the claims.

In addition, there does not appear to be any suggestion or motivation to combine McNair et al. and Bojeryd in the manner suggested by the Examiner. As discussed above, Bojeryd teaches a method of transferring cellular calls from a macro-cell outside a building to a pico-cell inside the building. If the teachings of Bojeryd were combined with McNair et al., Bojeryd would appear to suggest operating one or two of the three channels of McNair et al. outside the building, while operating the remaining one or two channels inside the building, where at any give time, communication is established either on the channels inside the building or the channels outside the building, but not both. Such a modification would appear to conflict with McNair et al., which appears to suggest using frequency hopping to sequentially communicate over all channels (see McNair et al., Figure 3). Therefore, it is unclear why one skilled in the art would be motivated to combine McNair et al. and Bojeryd in the manner suggested by the Examiner.

In addition, McNair et al. appear to use frequency hopping to "avoid possible loss of reception due to interference". (see McNair et al., column 3, lines 12-14). That is, the various channels of McNair et al. appear to be provided to help ensure that reception can be established, and not to help prevent communication collisions from other devices. That is, there would appear to be little need to distinguish between frequency sub-ranges that are more commonly used than other portions of the frequency range by devices in or near the building, are recited in claim 1. In fact, McNair et al. appear to address the communication collision issue in a substantially different way. For example, McNair et al. state:

> To enhance operation (by reducing the risk that other sensor modules will be transmitting at that moment in time also) a random variation in timing can be introduced to prevent continual errors due to simultaneous transmission from other modules. This can be achieved by utilising the microprocessor 40 with an algorithm suitable for generating a pseudo random time value.

(McNair et al., column 3, lines 31-38). That is, it appears that McNair et al. address the communication collision issue by introduce a random timing variation in the transmission times.

For at least the reasons set forth above, independent claims 1, 11, and 15 are believed to be patentable over McNair et al. in view of Bojeryd. For similar and other reasons, dependent claims 2-3, 8, 12, 14, and 16-19 are also believed to be clearly patentable over McNair et al. in view of Bojeryd. Withdrawal of the rejection is respectfully requested.

Claims 4-6, 10, 13, and 20 are rejected as being unpatentable over McNair et al. in view of Bojeryd and Bartel et al. (U.S. Patent No. 5,898,230). The Examiner states that McNair et al. fail to disclose the frequency range in particular an ISM band, wherein the frequency range is between 433 MHZ and 434.79 MHZ. The abstract of Bartel et al. is relied on for disclosing the frequency range in particular an ISM band, wherein the frequency range is between 433 MHZ and 434.79 MHZ. For at least the reasons set forth above, the combination of McNair et al. and Bojeryd fail to teach or suggest the elements of the independent claims 1, 11, and 15. Bartel et al. do not provide what McNair et al. and Bojeryd lack. Bartel et al. is directed to a system in which frequency hopping over an ISM band of 433 to 435 MHz is achieved by a timing pattern. Bartel et al. do not teach or suggest identifying a frequency subrange that is more commonly used than other portions of the frequency range, or sending data using a first frequency within that subrange and sending data using a second frequency that is not in the subrange. Thus, the combination of McNair et al., Bojeryd, and Bartel et al. also fails to teach or suggest the elements of the claims. Withdrawal of the rejection is respectfully requested.

Reconsideration and reexamination are respectfully requested. Applicants respectfully submit that all pending claims, namely claim 1-20, are now in condition for allowance. Issuance of a notice of allowance in due course is respectfully requested. If a telephone conference would be of assistance, please contact the undersigned attorney at 612-677-9050.

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